Taxonomic notes.—BAILEY[8] has published in advance some of the changes in nomenclature that will appear in the *Standard Cyclopedia of Horticulture*. The changes selected for publication involve the names of 100 species and varieties, and some of the changes affect North American species. For example, the retention of *Malus* in *Pyrus* involves changes in 24 names; while a new interpretation of *Statice* as contrasted with *Limonium* calls for changes in 43 names. The author pays his respects to a certain type of taxonomic work as follows: "It has been the desire, in the compilation of the cyclopedia, to accept new generic limitations with caution. The temper of the present times is to find differences, as opposed to the tendency of the immediately preceding workers to find agreements. The analytic intention is the mark of systematic work in this generation, as the synthetic intention was the mark of the past generation. There is reason to expect a return from the method of disunion to the method of relationships; and as a work designed for the use of horticulturalists, who cannot be skilled in bibliography and pedantry, should be conservative, I have thought it best, so far as possible, to avoid unnecessary and fantastic sub-divisions."

CONARD[9] has revived the discussion concerning certain generic names of our water lilies. With the help of even the more conservative manuals, we were accustoming ourselves to say *Castalia* when we thought of *Nymphaea*, and to say *Nymphaea* when we thought of *Nuphar*. Now CONARD has shown that the valid generic name for the white water lilies is *Nymphaea* after all, and for the yellow pond lilies is *Nuphar*.

FERNALD[10] has discussed the species of *Sabatia* usually recognized as occurring in New England, and has described a new species (*S. Kennedyana*) occurring in Massachusetts and Rhode Island.—J. M. C.

Life cycles of bacteria.—LÖHNIS and SMITH,[11] in a preliminary communication, present some of their conclusions from a study of 42 strains of bacteria. All of these strains showed life cycles "not less complicated than those of other microorganisms"; and the authors are inclined to believe that this may be true of all species of bacteria. The forms studied live alternately in an organized and in an amorphous stage, the latter being called a "symplastic" stage, because in this stage the separate cells undergo "a thorough mixing." From this "symplasm" new individual cells arise in various ways. In all cases what are called "regenerative units" become visible, which increase in size, and

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[8] BAILEY, L. H., Nomenclatorial transfers. Rhodora **18**:152–160. 1916.

[9] CONARD, HENRY S., *Nymphaea* and *Nuphar* again. Rhodora **18**:161–164. 1916.

[10] FERNALD, M. L., The genus *Sabatia* in New England. Rhodora **18**:145–152. *pl. 121.* 1916.

[11] LÖHNIS, F., and SMITH, N. R., Life cycles of the bacteria. Jour. Agric. Research **6**:675–702. *pls. 1–7. fig. 1.* 1916.

later "either by germination or by stretching become cells of normal shape." A direct union of two or more individual cells was also observed, the significance of which was not studied. The authors state that "the life cycle of each species of bacteria studied is composed of several subcycles, showing wide morphological and physiological differences. They are connected with each other by the symplastic stage. Direct changes from one subcycle into another occur, but they are rather rare exceptions." It is obvious that if such life cycles are established for bacteria in general, a new field is opened up in bacteriology.—J. M. C.

Cane sugar and translocation.—BOYSEN-JENSEN[12] concludes that cane sugar plays an important rôle in the germination of pea seeds. In the first stages of germination the cane sugar present in the ungerminated seed is used both as building and respiratory material, as is evident from its reduction in amount during the first few days of the process. In the second stage of germination cane sugar is the translocation form of the starch, as is shown by the following facts: (1) there is a higher concentration in the cotyledons than in the axillary organs; (2) the concentration rises with time in the isolated cotyledons and falls in the isolated axillary organs; (3) only inconsiderable amounts of reducing sugars are present in the cotyledons. The author cites several investigations showing the frequent appearance of cane sugar as the translocation form of starch, and concludes by saying that either monosaccharides or disaccharides may be translocation forms of starch, depending upon the character of the plant part.—WILLIAM CROCKER.

Cabbage yellows.—GILMAN[13] has investigated this disease and the relation of temperature to its occurrence. It is a wilt disease caused by *Fusarium conglutinans*, which is a facultative parasite living in the soil, and under certain conditions becoming destructive to cabbage. It has a high optimum temperature and is very resistant to drying. Inoculation experiments were largely successful in inducing the disease, the failures being due obviously to variations in the virulence of the cultures and in the susceptibility of the host. Control plants remained entirely free from the disease. The appearance of the characteristics symptoms is dependent upon a temperature of 17–22° C. or above, lower temperatures preventing the occurrence of the disease. Field observations through three seasons confirmed this relation between the occurrence of the disease and high temperature.—J. M. C.

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[12] BOYSEN-JENSEN, P., Vorkommen, Bedeutung, und Bildung des Rohrzuckers bei der Keimung von *Pisum sativum*. Jahrb. Wiss. Bot. **56**:431–446. 1915. PFEFFER'S Festschrift.

[13] GILMAN, J. C., Cabbage yellows and the relation of temperature to its occurrence. Ann. Mo. Bot. Gard. **3**:25–84. *pls. 2. figs. 21.* 1916.